In the Claims

1.   (Currently amended) A <u>computer-implemented</u> method of processing a database service query, comprising:

receiving, <u>using a computer,</u> a service query, the service query comprising a filter that comprises one or more filter items;

expanding, <u>using the computer,</u> the filter of the service query;

applying, <u>using the computer,</u> a condition test to each filter item of the expanded filter, the condition test comprising:

determining if the filter item comprises a NOT connective; and

determining if the filter item comprises one of a type only filter item or a type and value filter item; and

if a determination is made that the filter item comprises a NOT connective and a type only filter item, applying, <u>using the computer,</u> a logical methodology to evaluate the filter item, the logical methodology comprising expanding an expression of the filter item so that the filter item does not comprise the NOT connective.

2.-3.   (Canceled)

4.   (Previously presented) The method as claimed in Claim 1, wherein the logical methodology comprises a subtraction method.

5.   (Previously presented) The method as claimed in Claim 1, further comprising, if a determination is made that the filter item comprises a NOT connective and a type and value filter item, pushing the NOT connective associated with the type and value filter item inside the filter item, resulting in changing an operator inside the filter item.

6.   (Previously presented) The method as claimed in Claim 1, wherein the condition test further comprises determining if each filter item pre-evaluates to true.

7.   (Previously presented) The method as claimed in Claim 1, wherein the condition test further comprises determining if each filter item pre-evaluates to false, such that an expanded term of the expanded filter is ignored.

8.   (Previously presented) The method as claimed in Claim 1, wherein expanding the filter comprises expanding the filter to a minimum set of terms.

9.   (Previously presented) A directory services arrangement comprising:

a plurality of tables, each table comprising a plurality of rows and columns, operable to store arbitrary data in a search service, at least one of the tables comprising information for resolving filters that comprise at least one filter item;

means for expanding each filter into an expanded term;

condition test means operable to determine:

whether each filter item comprises a NOT connective; and

whether each filter item comprises one of a type only filter item or a type and value filter item; and

means for applying, if a determination is made that the filter item comprises a NOT connective and a type only filter item, a logical methodology to evaluate the filter item, the logical methodology comprising expanding an expression of the filter item so that the filter item does not comprise the NOT connective.

10.-11. (Canceled)

12.   (Previously presented) The directory services arrangement as claimed in Claim 9, wherein the logical methodology comprises a subtraction method.

13.   (Previously presented) The directory services arrangement as claimed in Claim 9, wherein, if a determination is made that the filter item comprises a NOT connective and a type and value filter item, a NOT connective associated with a type and value filter item is pushed inside the filter item resulting in changing an operator inside the filter item.

14.   (Previously presented) The directory services arrangement as claimed in Claim 9, wherein the condition test means is further operable to determine if each filter item pre-evaluates to true.

15.   (Previously presented) The directory services arrangement as claimed in Claim 9, wherein the condition test means is further operable to determine if each filter item pre-evaluates to false, such that an expanded term of the expanded filter is ignored.

16.   (Previously presented) The directory services arrangement as claimed in Claim 9, wherein the condition test means is further operable to:

determine if each filter pre-evaluates to true and is inverted by a NOT connective; and

if a determination is made that a particular filter pre-evaluates to true and is inverted by a NOT connective, ignore the expanded term.

17.   (Currently amended) A computer-implemented method of processing a database service query, comprising:

receiving, using a computer, a service query;

applying, using the computer, a filter to the service query resulting in zero or more filter items;

applying, if one or more filter items results, a condition test, using the computer, to each filter item to determine whether the filter item comprises one of a type only filter item or a type and value filter item; and

if a determination is made that the filter item comprises a NOT connective and a type only filter item, applying, using the computer, a logical methodology to evaluate the filter item, the logical methodology comprising expanding an expression of the filter item so that the filter item does not comprise the NOT connective.

18.-19. (Canceled)

20.   (Previously presented) The method as claimed in Claim 17, wherein the logical methodology comprises a subtraction method.

21.   (Previously presented) The method as claimed in Claim 20, wherein the subtraction method comprises using an ANSI SQL "except" clause.

22.   (Previously presented) The method as claimed in Claim 20, wherein the subtraction method comprises transforming each filter item to a form that contains fewer or no NOT connectives.

23.   (Canceled)

24.   (Previously presented) The method as claimed in Claim 17, comprising, if the filter item is a type and value filter item, adding SQL representing the filter item to an expression to be evaluated by performing at least one table join.

25.   (Previously presented) The method as claimed in Claim 17, comprising, if the filter item is an inverse of the type and value filter item, pushing the NOT connective inside the filter item.

26.   (Original) The method as claimed in Claim 25, further comprising applying the pushed NOT connective to an operator.

27.   (Original) The method as claimed in Claim 26, wherein the step of applying the pushed NOT is effected by inverting the operator.

28.   (Previously presented) A directory services arrangement comprising:

one or more memory modules operable to store a plurality of tables, each table comprising a plurality of rows and columns, operable to store arbitrary data, at least one of the tables comprising information for resolving filters that comprise at least one filter item in a search service; and

one or more processing units operable to:

execute a condition tester operable to determine:

whether each filter item comprises a NOT connective; and

whether each filter item comprises a type only filter item or a type and value filter item; and

apply, if a determination is made that the filter item comprises a NOT connective and a type only filter item, a logical methodology to evaluate the filter item, the logical methodology comprising expanding an expression of the filter item so that the filter item does not comprise the NOT connective.

29.-30. (Canceled)

31.   (Previously presented) The directory services arrangement as claimed in Claim 28, wherein the logical methodology comprises a subtraction method.

32.   (Previously presented) The directory services arrangement as claimed in Claim 28, wherein, if determined that the filter item comprises a NOT connective and a type and value filter item, a NOT connective associated with the type and value filter item is pushed inside the filter item resulting in changing an operator inside the filter item.

33.   (Previously presented) The directory services arrangement as claimed in Claim 28, wherein the condition tester is further operable to determine if each filter item pre-evaluates to true.

34. (Previously presented) The directory services arrangement as claimed in Claim 28, wherein the condition tester is further operable to determine if each filter item pre-evaluates to false, such that an expanded term of the expanded filter is ignored.

35. (Previously presented) The directory services arrangement as claimed in Claim 28, wherein the condition test means is further operable to:

determine if each filter item pre-evaluates to true and is inverted by a NOT connective; and

if a determination is made that a particular filter item pre-evaluates to true and is inverted by a NOT connective, ignore the expanded expression of the particular filter item.

36. (Previously presented) A computer program for processing a database service query, the program being embodied on a computer-readable medium and having instructions for causing a processor to perform operations comprising:

receiving a service query, the service query comprising a filter comprising one or more filter items;

expanding the filter;

applying a condition test to each filter item of the expanded filter, the condition test comprising:

determining if the filter item comprises a NOT connective; and

determining if the filter item comprises one of a type only filter item or a type and value filter item; and

if a determination is made that the filter item comprises a NOT connective and a type only filter item, applying a logical methodology to evaluate the filter item, the logical methodology comprising expanding an expression of the filter item so that the filter item does not comprise the NOT connective.